## I claim:

5

10

1. A method of diagnosing injuries of the cervical vertebrae in the neck of a patient, said method comprising the steps of:

providing an extension support pad;

positioning the neck of a patient upon the extension support pad such that the cervical vertebrae are positioned in extension, whereby a central portion of the patient's neck does not contact the extension support pad;

providing medical imaging equipment and imaging the cervical vertebrae to produce an image of the cervical vertebrae in extension;

providing a flexion support pad;

positioning the neck of a patient upon the flexion support pad such that the cervical vertebrae are positioned in flexion, whereby a central portion of the patient's neck does not contact the flexion support pad;

imaging the cervical vertebrae to produce an image of the cervical vertebrae in flexion;

comparing the flexion image and the extension image to produce a diagnosis of injury to the cervical vertebrae.

20 2. The method of claim 1, further comprising the steps of:

positioning the neck of the patient such that the cervical vertebrae are in the neutral position;

R0570.10V -17-

imaging the cervical vertebrae to produce an image of the cervical vertebrae in neutral;

comparing the neutral image, the flexion image and the extension image to produce a diagnosis of injury to the cervical vertebrae.

5

3. The method of claim 1, further comprising the steps of:

providing a secondary coil and disposing said secondary coil on said extension support pad and on said flexion support pad, whereby said secondary coil does not contact the neck of the patient.

10

4. The method of claim 2, further comprising the steps of:

providing a secondary coil and disposing said secondary coil on said extension support pad and on said flexion support pad, whereby said secondary coil does not contact the neck of the patient.

15

- 5. The method of claim 1, wherein said imaging step is performed by an imaging method chosen from the group of imaging methods consisting of x-ray, magnetic resonance imaging and computerized axial tomography.
- 20 6. The method of claim 2, wherein said imaging step is performed by an imaging method chosen from the group of imaging methods consisting of x-ray, magnetic resonance imaging and computerized axial tomography.

R0570.10V

7. A method of diagnosing injuries of the cervical vertebrae in the neck of a patient, said method comprising the steps of:

providing an extension support pad having a generally convex support surface;

positioning the neck of a patient upon the extension support pad such that the cervical vertebrae are positioned in extension, whereby a central portion of the patient's neck does not contact the convex support surface;

providing medical imaging equipment and imaging the cervical vertebrae to produce an image of the cervical vertebrae in extension;

providing a flexion support pad having a generally concave support surface;

positioning the neck of the patient upon the flexion support pad such that the cervical vertebrae are positioned in flexion, whereby a central portion of the patient's neck does not contact the concave support surface;

imaging the cervical vertebrae to produce an image of the cervical vertebrae in flexion; and

comparing the flexion image and the extension image to produce a diagnosis of injury to the cervical vertebrae.

8. The method of claim 7, further comprising the steps of:

positioning the neck of the patient such that the cervical vertebrae are in the neutral position;

R0570.10V

5

10

15

imaging the cervical vertebrae to produce an image of the cervical vertebrae in neutral; and

comparing the neutral image, the flexion image and the extension image to produce a diagnosis of injury to the cervical vertebrae.

5

9. The method of claim 7, further comprising the steps of:

providing a secondary coil and disposing said secondary coil on said extension support pad and on said flexion support pad, whereby said secondary coil does not contact the neck of the patient.

10

10. The method of claim 8, further comprising the steps of:

providing a secondary coil and disposing said secondary coil on said extension support pad and on said flexion support pad, whereby said secondary coil does not contact the neck of the patient.

15

- 11. The method of claim 7, wherein said imaging step is performed by an imaging method chosen from the group of imaging methods consisting of x-ray, magnetic resonance imaging and computerized axial tomography.
- 20 12. The method of claim 8, wherein said imaging step is performed by an imaging method chosen from the group of imaging methods consisting of x-ray, magnetic resonance imaging and computerized axial tomography.

13. A method of diagnosing injuries of the cervical vertebrae in the neck of a patient, said method comprising the steps of:

providing an extension support pad having a generally convex support surface and a cavity;

positioning the neck of a patient upon the extension support pad such that the cervical vertebrae are positioned in extension, whereby a central portion of the patient's neck is situated over the cavity and does not contact the convex support surface;

providing medical imaging equipment and imaging the cervical vertebrae to produce an image of the cervical vertebrae in extension;

providing a flexion support pad having a generally concave support surface and a cavity;

positioning the neck of the patient upon the flexion support pad such that the cervical vertebrae are positioned in flexion, whereby a central portion of the patient's neck is situated over the cavity and does not contact the concave support surface;

providing medical imaging equipment and imaging the cervical vertebrae to produce an image of the cervical vertebrae in flexion; and

comparing the flexion image and the extension image to produce a diagnosis of injury to the cervical vertebrae.

20 14. The method of claim 13, further comprising the steps of:

positioning the neck of the patient such that the cervical vertebrae are in the neutral position;

R0570.10V

5

15

imaging the cervical vertebrae to produce an image of the cervical vertebrae in neutral;

comparing the neutral image, the flexion image and the extension image to produce a diagnosis of injury to the cervical vertebrae.

5

15. The method of claim 13, further comprising the steps of:

providing a secondary coil and disposing said secondary coil in said cavity of said extension support pad and in said cavity of said flexion support pad, whereby said secondary coil does not contact the neck of the patient.

10

16. The method of claim 14, further comprising the steps of:

providing a secondary coil and disposing said secondary coil in said cavity of said extension support pad and in said cavity of said flexion support pad, whereby said secondary coil does not contact the neck of the patient.

15

- 17. The method of claim 13, wherein said imaging step is performed by an imaging method chosen from the group of imaging methods consisting of x-ray, magnetic resonance imaging and computerized axial tomography.
- 20 18. The method of claim 14, wherein said imaging step is performed by an imaging method chosen from the group of imaging methods consisting of x-ray, magnetic resonance imaging and computerized axial tomography.

R0570.10V -22-